Work Order ID 9541 <i>January-09-13 1:04:24 PM</i>	2		*954	12*						Page 1
Item ID: D2274 Revision ID: Item Name: Radius Block	225.0	A	ccept	*N900	040 ′	1003	k Se	etup Start Stop	*N:	S1* S2*
Start Date: 1/28/13 S	tart Qty: 120.06 Req'd Qty: 120.00	*120* *120*		Cust Item II Customer:	D :			Gi. i		
Approvals: Process Plan:	MLゴ Date	:13-01-10	Tooling:	Da	te:		R	un Start	*N	R1*
QC:	Date	»:	SPC (Y/N):	Da	te:			Stop	*N	R2*
	peration escription		Set Up/ Run Hours	Tool ID	Tool#		Accept Qty	•	Reject Number	Insp. Stamp
Draw Nbr Revisio	on Nbr									
D2274 Rev F										
100 *1	Memo blanks 9.00" long +/	- 0.030"Note: 1 blanl		A13/0	1/20	· 5	225 247	5_9		
*110 * HAAS 1 HAAS CNC vertical machine #1	IAAS CNC VERTICAL MACH Memo Machine as per folio		0.00	0 13/01/	1 23	-	247	_ Ø		
120 Q *170* QC Quality Control	OC2- Inspect parts off machine I	FAI/FAIB	00.0 OF 00.0	13/01/	23		247	Ø		

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-C	CON	FORN	/IANCE / UP	DATE	•		•
											QA Closed:	Date:	·
Work Orde	or.					DISPOSIT!ON				AGAINST DE	PARTMENT	/PROCESS	
, work ora	-					Rework	1		Skid-tube	Crosstube	l	Water Jet	Engineering
Part 1	No.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality
	-					Use-as-is		Therm	noforming	Finishing	Rec/Stor	re/Packaging	Other
NCR f	۱o					Work Order Update]		Large Fab	Composite		Supplier	
Root					Descri	Legion of work order update	In	itial	Ac	tion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Chie	ef Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator							1						
Material													
Setup			ŧ										
Other		•			:		1						
Process													
Supplier				-									
Training	Ш												
Unapproved						•			.:	•		<u> </u>	
						F	AULT	CATE	GORY .	· · · · · · · · · · · · · · · · · · ·			
Landi	ng G	ear				General				<u></u>	_		
	Ш	Bending				Bend		Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route	Ľ	Hardwa	re		Over/Under	tolerance	Temperature/Cure
	Ш	Cracks				Broken/Damaged		nspecti	ori Incomplete		Part Incorre	ct	Weld
		Crushed/0	Crimped.			Burrs	ال	nstruct	ions Incomplete,	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	t			Countersink		Mislabe	led		Positioned V	Wrong	_
	П	Inspection	n Strip in	Tube		Cut Too Short		Misreac	i		Power Loss/	'Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

January-09-13 1:04:24 PM

ianuary-09-13	1.07.27 1 W												
Item ID: Revision ID:	D2274			Ac	cept	•	*N900	040	100)* s	etup Start	ı VI .	S1*
Item Name:	Radius Block	,									Stop	*N:	S2*
Start Date: Required Date	1/28/13 : 1/28/13	Start Qty: 120,00 Req'd Qty: 120.00		*120* *120*			Cust Item II Customer:	D :					
Reference:									···	D	un Start		– 4 sk
Approvals:	Process Pla	nn:	Date:		Fooling:		Da	te:		K		1/1	R1*
	QC:		Date:		SPC (Y/N)):	Da	te:			Stop	*N	R2*
Sequence ID/ Work Center 1	ID	Operation Description			Set Up/ Run Ho		Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 \		QC8- Inspect parts - second	i check		0.00	b.a	12/0./02			2117	1		0As 08 8
130 QC Quality Control		Мето			0.00	H-H	13/01/23			247	_		<u>~8-83</u>
140					0.00							rēd by	
140		Small Fab			0.00					246	\$	A	13.02.12 2.37
Small Fab Small Fab		Memo TumbleDeburi	any rough e	edges after tumb	0.00 ling					246	Ma	13-6	2.37
150		Chemical Conversion Coat	per OSI005	4.1	0.00	,				·		A -	2 27
150			, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							746	's The	513	2.27
HandFinish Hand Finishing		Memo			0.00								
11414 1 111311115													

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											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORM	MANCE / UP	DATE			
											QA Closed:	Date:	
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	
Part NCR	No.					Rework Scrap Use-as-is Work Order Update		f Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Descri	ption of work order update		Initial	Ac	tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Cł	nief Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data											:		
Equip/Tooling								•		·			
Operator				1									
Material]	
Setup 30													
Other 🗓													
Process													
Supplier	L						l						
Training													
Unapproved													
	_						AUI	LT CATE	GORY				
Land	ing (Gear				General		_		,	-	·	-
		Bending				Bend		Grain			Ovalized	<u> </u>	Pressure/Forced
	L	Centre N	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	ion Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/M	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	enance		Part Moved		_
		Heat Trea	at			Countersink		Mislabe	eled		Positioned \	N rong	
		Inspectio	n Strip in	Tube		Cut Too Short		Misread	d		Power Loss	/Surge	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing Finish

Work Orde		412		*9541	2*						Page 3
Item ID: Revision ID: Item Name:	D2274 Radius Block			Accept	N90004	4 0 10	1 0*	Setup	Start	1 11.	S1* S2*
Start Date: Required Date: Reference:	1/28/13	Start Qty: 120.00 Req'd Qty: 120.00	*120' *120'		Cust Item ID: Customer:						
Approvals:		n:	Date:	Tooling: SPC (Y/N):	Date:		-	Run	Start Stop	" 1/1	R1* R2*
Sequence ID/ Work Center II 160 *160* QC Quality Control	D	Operation Description QC7-Inspect Chemical Co	onversion Coat	Set Up/ Run Hours 0.00 15 0.00 13 2 2		ool # Pla Co		pt Re Q	eject ty	Reject Number	Insp. Stamp
170 *170* Packaging Packaging		Identify as per dwg & Sto Memo	ck Location:	0.00			241	Q_\		-	135

180

QC21- Final Inspection - Work Order Release

0.00

1 RN

Memo

0.00

Quality Control

13/2/88 Af

												DQA:	Dat	te:	
NCR:	Yes	/ No				WORK ORDER NON-O	O	NFORN	MANCE / UP	PDATE		·			
												QA Closed:	Dat	te:	
Work Orde	er.					DISPOSITION				AGAINST D	ΕΙ	PARTMENT	PROCESS		
Part N	- _ No.					Rework Scrap Use-as-is Work Order Update		N Therm	Skid-tube Machining oforming Large Fab	Crosstube Small Fab Finishing Composite			Water Jet d. Eng. Coor. e/Packaging Supplier		Engineering Quality Other
Root					Descrip	otion of work order update	1	Initial	Ad	ction		Sign &			
Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Desc	cription		Date	Verification	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved								` .							·
							AUL	T CATE	ORY						
Landi	Ď	ear Bending Centre No	ot Concer	ntric to (<u> </u>	General Bend BOM/Route		Grain Hardwai	re	F		Ovalized Over/Under	tolerance		Pressure/Forced Temperature/Cure
	-	Cracks Crushed/0	Crimped.			Broken/Damaged Burrs		4 '	on Incomplete oris Incomplete,	/Unclear		Part Incorred Part Lost/Mi			Weld Wrong Stock Pulled
	\square	Cuffs Heat Trea				Contamination Countersink		Mainte Mislabel	nance			Part Moved Positioned V	_	L	1
		nspection	n Strip in	Tube		Cut Too Short		Misread		<u> </u>		Power Loss/	-		Other
	[!	Ripples in	Bend		1 :	Drill Holes		Offset							

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

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Picklist Print

January-09-13 1:04:24 PM

Work Order ID:

95412

Parent Item:

D2274

Parent Item Name:

Radius Block

Start Date: 1/28/13

Required Date: 1/28/13

Page 1

Start Qty: 120.00

Required Qty: 120.00

Comments:

IPP H00.05.18Added inspection level 8EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B00750X00.125	5	Purchased	No			100	f	50.2895	0.0916	11.570532			
6061-T6 Bar .750 x .125									· **-	. ,20			,
				Location		Loc Qty	<u>Lo</u>	c Code					
				MAT049		50.28945					- /	1 1	/
				1227	753	8.5				.5_		13/01	120
				· → 1232	279	41.78945			1	4 2			-

9.70645

											DQA:	Date:	
NCR:	Yes	/ No				WORK ORDER NON	-COI	NFOR	MANCE / UP	DATE			
						<u>.</u>		r			QA Closed:	Date:	
Work Ord	er:					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
Part I	•					Rework Scrap Use-as-is		i	Skid-tube Machining noforming	Crosstube Small Fab Finishing		Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR I	No.					Work Order Update		Inch	Large Fab	Composite]	Supplier	
Root					Descr	iption of work order update		Initial	Act	ion	Sign &		
Cause		Date	Step	Qty		or Non-conformance	Ch	nief Eng	Descr	ription	Date	Verification	QC Inspector
oc/Data													
quip/Tooling													,
perator													
/laterial												·	
etup													
ther													
rocess													
upplier													
raining													
Inapproved		<u> </u>	<u> </u>	l							1		
							FAUL	LT CATE	GORY				
Landi	ng (1			_	General		1			٦	Γ	٦
		Bending			_	Bend	-	Grain		-	Ovalized		Pressure/Forced
	_	Centre No	ot Concer	ntric to	^{O/S} -	BOM/Route	-	Hardwa		-	Over/Under	 	Temperature/Cure
	-	Cracks			<u> </u>	Broken/Damaged	\vdash	-i `	ion Incomplete		Part Incorre	├	Weld
		Crushed/0	Crimped.		\vdash	Burrs	-	4	tions Incomplete/U	Jnclear	Part Lost/M	issing	Wrong Stock Pulled
	_	Cuffs			<u> </u>	Contamination	<u> </u>	Mainte			Part Moved	• •	
		Heat Trea		+ ;	<u> </u> -	Countersink		Mislabe			Positioned V		7
	\vdash	Inspection		Tube	_	Cut Too Short	-	Misrea	a	L.	Power Loss/	Surge	Other
	\vdash	Ripples in			<u> </u>	Drill Holes	-	Offset	- H				
		Torque W			n	Drawing	-	4	Calibration				
		Turning So	equence		- 1	Finish	- 1	[Out of :	Secuence				

Outside Dimensions

Wave/Twist in Tube

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DART AEROSPACE LTD		Work Order:	95412
	· · · · ·		
Description: Radius Block		Part Number:	D2274
Inspection Dwg: D2274 Rev: F			Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X	First Article	Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.257	+0.005 -0.000	. 260	V		VERN	P210-01
0.750	+/-0.010	-747	/		••	**
0.375	+/-0.010	. 372	/		11	٧,
0.125	+/-0.010	. 125			· (٠,
0.750	+/-0.010	747	/		ll .	',
0.063	+/-0.010	. 063			16	
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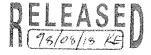
Measured by:	PD	Audited by:	DA 08	Prototype Approval:	N/A
Date:	13/01/23	Date:	13/01/2389	Date:	N/A

Rev	Date	Change		Revised by	Approved
Α	03.10.07	New Issue	ν.	KJ/RF	1 1

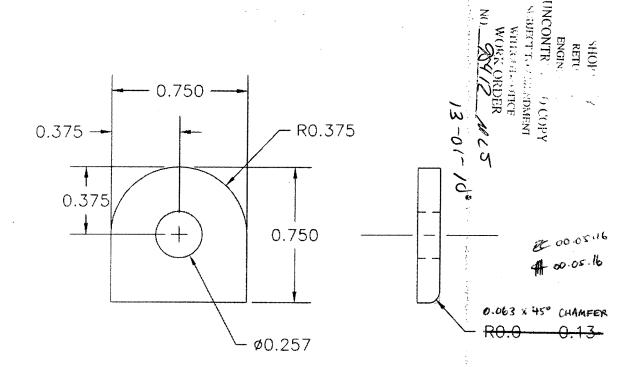




DESIG	KE	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	·
CHEC	(ED	APPROYED	DRAWING NO.	REV. F
	NIN/	4	D2274 SHEET 1	OF 1
DATE		7	TILE	SCALE
98.08.11		•	RADIUS BLOCK	2:1
Α		94.09.29	NEW ISSUE "	
С		95.07.12	RADIUS ENDS	



98.08.11	•	RADIUS BLOCK	2:1
Α	94.09.29	NEW ISSUE "	
С	95.07.12	RADIUS ENDS	
D	97.03.24	ADD MATERIAL SPECIFICATION	
Ε	97.12.12	ADD FINISH & TOLERANCE QSI	
F	98.08.11	RO.0 - 0.13 WAS RO.063 - 0.125	
	A C D	A 94.09.29 C 95.07.12 D 97.03.24 E 97.12.12	A 94.09.29 NEW ISSUE * C 95.07.12 RADIUS ENDS D 97.03.24 ADD MATERIAL SPECIFICATION E 97.12.12 ADD FINISH & TOLERANCE QSI



MATERIAL: 5052-H34 (QQ-A-250/8) 0.125 THICK OR 6061-T6 (QQ-A-250/11) 0.125 THICK

FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED